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Triple-NRTI regimens while on TB treatment in a resource constrained setting - a paediatric cohort analysis

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AMBULANCE
TOYOTA
994 FAD GC
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When there is no Ritonavir syrup?

Drug supply is a huge issue – stock outs and short shelf half life

- If children could swallow – used tablets
- If no PMTCT exposure we used Efavirenz

Problems

- Double dose Kaletra® syrup – increase resistance risk
- Mono 3TC holding therapy – not with low CD4 or Stage 3 disease

The option was to use a triple NTRI regimen

Background WHO guidelines

Table 2
Recommendations for concurrent use of antiretroviral therapy and TB treatment

Age / weight	Antiretroviral therapy (ART)*
<3yrs or <10kg	*Retain or start on the following regimens* Nucleoside Reverse Transcriptase Inhibitor (NRTI) backbone – use 2 NRTI's Third drug If on nevirapine • switch to lopinavir/rit with additional ritona mg parity with lopina • continue for 1-2 week has been stopped • If not possible, – cont dose at the upper end of If on lopinavir/ritonavir (• use additional ritonav • triple NRTI therapy is viral load <100 000 c
≥3yrs and ≥10kg	*Retain or start on the following regimens* 2 NRTI's as backbone Third drug If on nevirapine • switch to efavirenz • if not available continue on nevirapine dose at the upper end of the dosage scale If on lopinavir/ritonavir (Kaletra®) • consider switch to efavirenz, only if undetectable viral load# • alternatively use additional ritonavir as above • triple NRTI therapy is an option, if baseline viral load <100 000 copies/ml

TB treatment is not adjusted – should be initiated as soon as the diagnosis is made
No ART adjustment is necessary with INH preventive therapy

Monitoring
If previously on ART – monitor clinically for signs of drug toxicity.
If ART newly initiated – monitor ALT after 2 & 4 weeks, then clinically for signs of drug toxicity.

If on lopinavir/ritonavir (Kaletra®)

- use additional ritonavir as above
- triple NRTI therapy is an option, if baseline viral load <100 000 copies/ml

From Marais BJ et al. Paediatric Resp Rev 2011

Discussed cases and options with specialist

Study methods

- Treatment strategy didn't preclude pharmacy and management team trying to procure Ritonavir
- 2 weeks post Rifampicin cessation, children were switched back to a PI containing regimen
- Once back on a PI containing regimen we did a viral load at 6 months
- Decided to go back and look at files over 3 years on children needing Rifampicin while on Kaletra® and anaylse the outcomes

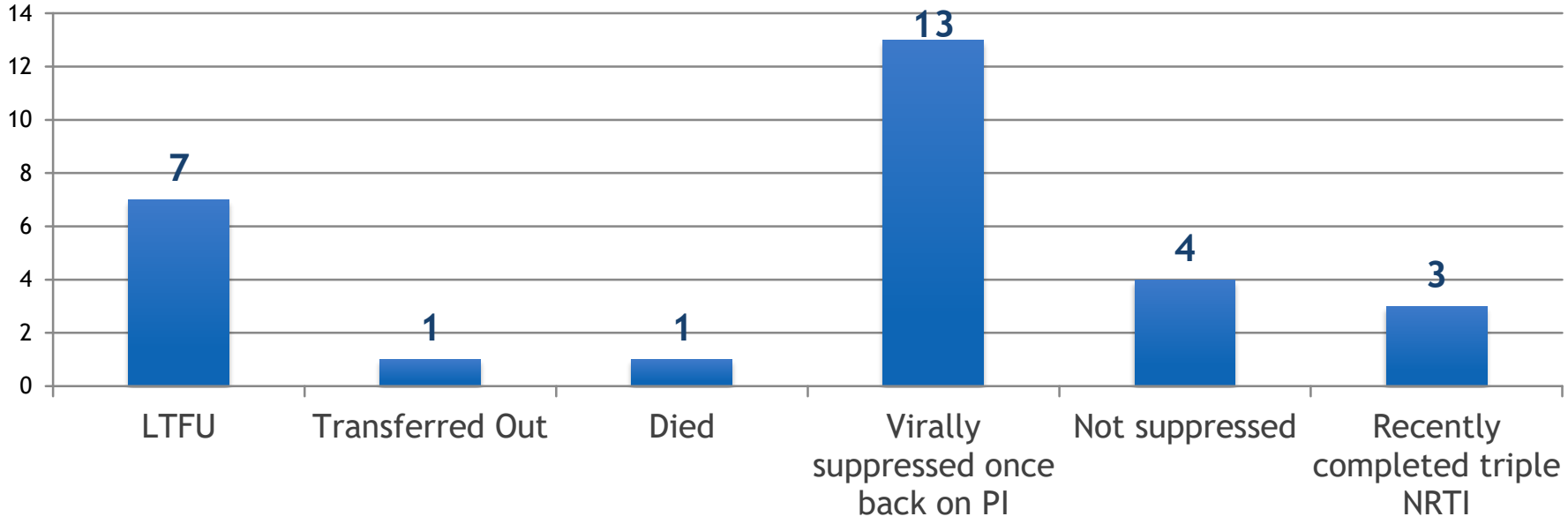
Study results

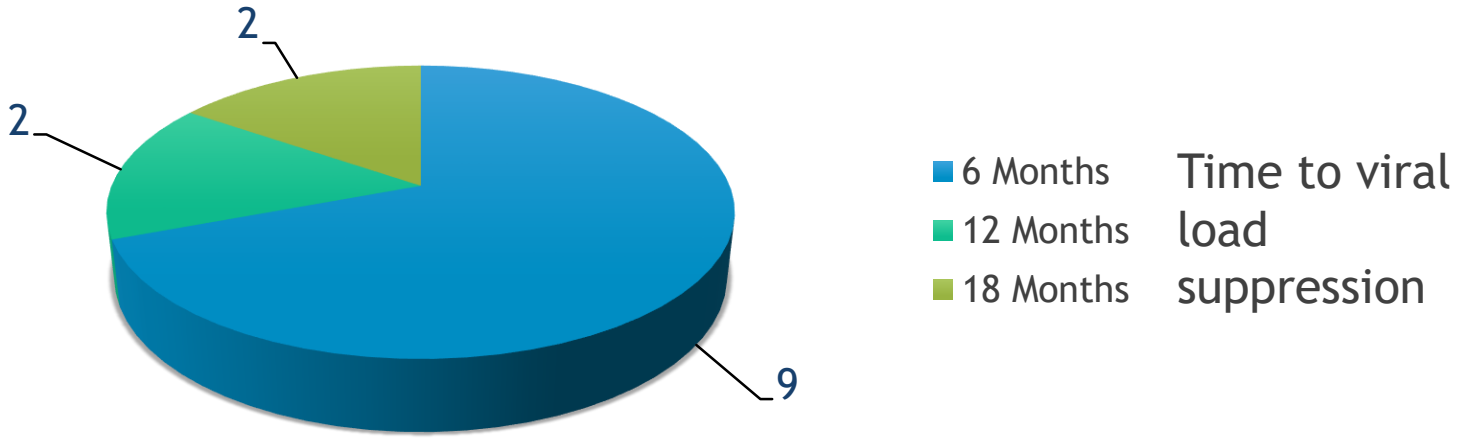
Total children analysed while on TB Rx	29
Baseline ARVS	15
Switched from ABC-3TC-Kaletra®	13
Switched from 3TC mono	1

Study results (continued)

Description	Median / Mean	Population Range
Median age at triple NRTI start	10.4 Months	1-76 months
Median Duration	6.44 months	0.92 – 10.1 months
Mean CD4% at start	20.1%	3 – 37%

Outcomes


14
12
10
8
6
4
2
0
7
1
1
13
4
3
LTFU
Transferred Out
Died
Virally suppressed once back on PI
Not suppressed
Recently completed triple NRTI


2
2
9
6 Months
12 Months
18 Months
Time to viral load suppression

Where to now?

- Keep pushing for ritonavir as PI super boosted regime is still gold standard
- Consider doing baseline viral loads before triple NRTI
- Keep analysing our data as long as Ritonivir is a stock out issue
- To be considered as an acceptable practice for future guidelines

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